

TWO NEW SPECIES OF THE GENUS *ISCHNURA*  
(ODONATA) FROM NORTH INDIA.

By F. F. LAIDLAW, M.A.

THE specimens described below were sent to me for examination amongst a small collection of dragonflies from the N.W. and Central Provinces of India by Dr. A. D. Imms, of the Indian Forest Research Institute at Dehra Dun.

They present several features of interest, and belong to two species which do not appear to have been described previously.

*Ischnura gangetica*, sp. nov.

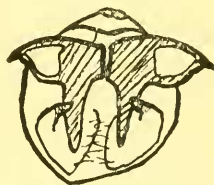
Two males Sat Tal Kumaon 12.5:12 (fully mature).

Three males Shamket Kumaon 16.12:12 (two males imperfect, fully mature; one male not quite mature).

Length of abdomen, male 24 mm., of hind wing 15 mm.

Build of *I. senegalensis*, but a trifle more robust.

*Venation.* Postnodals on fore wing eight, exceptionally seven or nine. Arculus on fore wing placed well beyond the level of the second antenodal (but in one instance, on the left side, it lies before the level of this nerve). Pterostigma of fore wing black with milky white front border, its fore margin shorter than the hinder; its antero-posterior diameter greater than its length from within outwards. Its hinder margin is strongly convex, and covers about three-quarters of the subjacent cell. Pterostigma of hind wing pale grey in colour, much smaller, oblique, its inner and outer margins nearly parallel, covering barely half of the subjacent cell.



*Ischnura gangetica*,  
sp. nov.

*Head.* Under surfaces yellowish-white, anterior surface green, including the first joint of the antennæ; there is a fine black line at the base of the upper lip, and the nasus is black. The upper surface and distal joints of the antennæ are black, with a round green (or blue?) postocular spot.

*Prothorax.* This is black above, with a green margin in front, and pear-shaped lateral green mark on either side, and a very fine, green edge to the posterior margin. When looked at from above, this margin is seen to have a small, medium, angular projection, but there is no marked prominence.

*Thorax* black dorsally, green at the sides, yellowish-white below; with a fine, complete, green antehumeral band on either side.

*Abdomen* black above, the anterior segments blue-green at the sides and below; in the hinder segments the ventral colour develops an orange tone. Segments eight and nine entirely blue; ten black above, blue ventrally. The articular rings are black, and the black dorsal band on each segment, after the first and second, is contracted at the very beginning of each segment, dilates, and then contracts again abruptly at its extreme hind end.

*Legs* yellowish-green; femora with a broad, longitudinal, dorsal

band of black, tibiæ with a similar but narrower band extending along the proximal two-thirds. Spines and tarsal articulations black.

*Anal appendages.* Upper part black, with a square yellowish-white patch on each of their opposed surface. Lower pair yellowish-white, the apex black. Seen in profile the upper pair are stout, slightly bowed downwards, truncate, with their posterior margin concave, the upper end of this margin a little hooked; the lower pair appear conical, tapering to an incurved apex.

When looked at from behind the upper pair are divaricated, the white mark on each is conspicuous, while each has a very strong downwardly directed spur near its base on its inner side; round this spur, which is not seen in profile, the apex of the lower appendage is hooked from without inwards on either side. The tubercles at the apex of segment ten are perfectly white, very small but, on account of their colour, rather striking in appearance.

The colouring is described from the least mature of the males, which is much more vividly marked than are the older specimens. These differ chiefly in having the green of the head, thorax, and prothorax less brilliant, and in having lost the white colour of the small apical tubercles of segment ten. On the other hand, the whitish patch on the upper anal appendages retain distinctness.

The species may be defined shortly as an *Ischnura* with segments eight and nine wholly blue, and ten blue with black dorsum. Tubercles on ten very small. Colour green for the most part, with black markings. Pterostigmata of fore wings of male considerably larger than those of hind wings, their colouring black, with upper part white, not covering an entire cell; pterostigmata of hind wings grey. Posterior margin of prothorax not forming definite lobes. Anal appendages with conspicuous white patch on opposed surfaces of upper pair; these have also a large downwardly directed spur.

*Ischnura immsi*, sp. nov.

One male Sonder Bhandara, Central Provinces 8. 12: 1912.

Length of abdomen 17 mm. ; of hind wing 11 mm.

Build of an *Agriocnemis*.

*Venation.* Postnodals on fore wing seven. Arculus at level of second antenodal; anal vein separating from the hind margin a considerable distance before the level of the cubito-anal cross vein, and at the level of the first antenodal. Upper side of quadrangle of fore wing quarter the length of its lower border, in hind wing about half. Pterostigmata of all wings grey, about equal in size, the outer border very oblique; covering two-thirds of the subjacent cell.



*Ischnura immsi*,  
sp. nov.

*Colouring* blue with black marking.

*Head.* Under surface white. Anterior surface blue, including first and second joints of the antennæ, but the nasus black; upper surface velvety black, a linear postocular mark on either side, blue, meeting its fellow in the middle line.

*Prothorax* black, fore margin blue, blue marks on each lateral border, hind margin not lobed, with a fine blue edge.

*Thorax* black dorsally as far as the first lateral suture, with a pair of blue antehumeral bands, which are rather broad; sides blue, under surface pale.

*Abdomen* blue; segments one to seven with a black dorsal longitudinal band and black articulations, eight, nine and ten entirely blue. The black band on three to six is narrow for the greater part of its length; at its posterior sixth it widens slightly, so as to form a diamond-shaped mark, narrowing again to join the black articular ring. Tubercles of ten rather prominent.

*Legs* white, small; femora with a narrow black band posteriorly, spines black.

*Anal appendages.* Upper pair black; lower pair white, their apex with a fine black point. In profile the upper pair are blunt and curved downwards; the lower pair are a little longer, conical, directed upwards. When looked at directly from behind their appearance is as shown in the text-figure. Above them lies the square hollow projection formed by the tubercles of segment ten. The upper appendages show as a pair of crescentic structures, their concavities lying to their inner sides. That part of the appendage which is visible in profile is here seen as a small projection directed backwards, rising from the margin of each of the upper pair. The lower pair have each a small dark apical projection approximated to the lower margin of the upper pair, though extending backward beyond them, and to be seen in profile.

The species may be characterized briefly as follows:—

A very small *Ischnura*, with feebly petiolated wings; the pterostigmata of all four wings similar and unicolorous. Posterior margin of prothorax not lobed. Colouring blue with black marks, segments eight, nine, and ten entirely blue; postocular spots linear, confluent.

The smaller of these two species, *I. immsi*, approaches *Agriocnemis* very closely in the characters of its venation, the small extent of the petiolation of the wing being very marked. On the other hand, whilst the arculus lies in line with the second antenodal nerve in this species, in *I. gangetica* it usually lies beyond the level of that nerve (though it is apparently somewhat variable in position; and in this respect *I. gangetica* also approximates to *Agriocnemis*). It is worthy of remark that in *I. gangetica* the strong downwardly directed spur of the superior anal appendage recalls strongly that found in many species of *Agriocnemis*. The whitish patches occurring on these appendages are possibly "recognition marks." When the appendages are divaricated, these marks may be conspicuous in the living insect. One of the specimens has died with the appendages in this position. Compare Tillyard's note on the male of *Hemiphysalis mirabilis*, de Selys, and his remarks on the position of *Ischnura* and *Agriocnemis* amongst the Agrioninæ (Proc. Linn. Soc. N.S. Wales, 1912, vol. xxxvii. pp. 443-464).

The type specimens will be returned to the Indian Forest Research Institute.